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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,020	04/18/2001	Yasushi Kohno	TKA0028	7531
7590	04/26/2006		EXAMINER	
MICHAEL S. GZYBOWSKI BUTZEL LONG 350 SOUTH MAIN STREET SUITE 300 ANN ARBOR, MI 48104			VALENTI, ANDREA M	
			ART UNIT	PAPER NUMBER
			3643	
			DATE MAILED: 04/26/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/837,020	KOHNO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrea M. Valenti	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 February 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3,7 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,3,7 and 13-16 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Claim Objections***

Claim 1 is objected to because of the following informalities:

Claim 1, line 4, "plat" should be --plant--

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 7, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,950,891 to Hinkes in view of U.S. Patent No. 5,666,762 to Carlson et al.

Regarding Claim 1, Hinkes teaches a method encapsulating at least one plant seed of a light germinator (Hinkes Col. 1line 60-65), the at least one plant seed having a size of 1 mm or less (Hinkes Col. 1line 16-20); an encapsulating the seed (Hinkes Col. 1 line 49 and Col. 2 line 18).

Hinkes is silent on explicitly teaching that the coating is an aqueous gel capsule having a moisture content of at least 90% by weight and the steps of refrigerating the at least one plant seed under on of a humidifying conditions or in an airtight container so that moisture is not lost from the aqueous gel capsule and under the condition that the at least one plant seed does not germinate; and sowing the at least one plant seed.

However, Carlson teaches that it is general knowledge in the art of plant husbandry to encapsulate seeds with an aqueous gel coat (Carlson Col. 5 line 4-7) for long-term storage (Carlson abstract line 7) and to store the seeds under refrigerated conditions in an airtight container (Carlson Col. 22 line 61-67) so that the plant does not germinate and then to plant the seed. It would have been obvious to one of ordinary skill in the art to modify the teachings of Hinkes with the teachings of Carlson at the time of the invention since the modification is merely the selection of an alternate seed coat selected for its known advantage of improving germination as taught by Carlson (Carlson Col. 1 line 65-66). Hinkes teaches there is sufficient motivation in the art to modify a celery seed with a seed coat to improve mechanized planting (Hinkes Col. 1 line 50-53). Carlson is cited merely to teach that seeds coated with aqueous gel coats are old and notoriously well-known in the art along with the commonly practiced procedures of long-term storage of coated seeds.

Regarding Claim 3, Hinkes as modified teaches that long-term storage occurs under refrigerated conditions (Carlson Col. 22 line 65), but is silent on explicitly teaching the refrigeration is carried out in a dark place. However, Hinkes clearly teaches that celery seeds require light to germinate (Hinkes Col. 1 line 60-65). It is notoriously well-known in the art that it is desirable to not have the seeds start germinating during storage. Thus, it would have been obvious to one of ordinary skill in the art to further modify the teachings of Hinkes at the time of the invention to prevent pre-mature germinations of the seeds.

Regarding Claim 7, Hinkes as modified teaches wherein the at least one plant seed encapsulated in an aqueous gel capsule is a pelletized seed (Hinkes Col. 2 line 18).

Regarding Claim 13, Hinkes as modified teaches the step of refrigerating the at least one encapsulated plant seed is conducted at a temperature of about 15C or lower (Carlson Col. 22 line 65).

Regarding Claim 14, Hinkes as modified teaches refrigerating step is conducted in an airtight container (Carlson Col. 22 line 62).

Regarding Claim 15, Hinkes as modified teaches the seed is celery (Hinkes abstract line 7).

Regarding Claim 16, Hinkes as modified teaches the gel capsule is agar (Carlson Col. 5 line 5).

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 3, 7, and 13-16 have been considered but are moot in view of the new ground(s) of rejection.

Examiner maintains that the method steps outlined by applicant in the claims are old and notoriously well-known concepts and steps in the art of plant husbandry. The prior art of record clearly teachings that it is known to coat small seed and to palletize small seeds to increase mechanized planting abilities. Furthermore, it is notoriously well-known to coat seed with aqueous gel coats to improve germination. Hinkes clearly demonstrates that water, temperature light, air (Hinkes Col. 1 line 62-63) all influence the germination rate of a seed. Carlson further teaches the general knowledge in these

parameters come into play when storing a coated seed. It is general knowledge to control temperature, light, etc to deter germination during storage. Therefore, the examiner maintains that applicant has not patentably distinguished over the teachings of the cited prior art of record.

Cited prior art of record, U.S. Patent No. 4,715,143 to Redenbaugh teaches a hydrogel seed capsule of sodium alginate of 90% water (Redenbaugh Col. 2 line 55-68 and Col. 3). Cited prior art of record, U.S. Patent No. 5,701,700 to Kohno teaches that gel-coated seeds/aqueous gel coated seeds make it feasible to mechanize planting of small seeds and to store them to be planted later at refrigerated temperatures (Kohnoe Col. 1 line 15-17, line 23-25 and Col. 3 line 28-29).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,562,663 (abstract; Col. 2 line 25-29; Col. 4 line 34-39 and Table 1; Col. 6 line 13-15 and Example B).

U.S. Patent No. 4,777,762 and U.S. Patent No. 5,129,180.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea M. Valenti whose telephone number is 571-272-6895. The examiner can normally be reached on 7:00am-5:30pm M-Th.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Andrea M. Valenti  
Patent Examiner  
Art Unit 3643

24 April 2006